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STATE OF ALASKA

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ANNUAL REPORT OF PROGRESS, 1959-1960

FEDERAL AID IN FISH RESTORATION PROJECT F-5-R-1

SPORT FISH INVESTIGATIONS OF ALASKA

ARLIS

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Introduction

This report of progress consists of the Job Completion Reports from the State of Alaska's Federal Aid in Fish Restoration Project F-5-R-1.

In 1959 the Alaska Department of Fish and Game, as an agency of the new state, became eligible for participation in the program. Prior to this time the Federal Aid in Fish Restoration activity in Alaska had been a function of the Fish and Wildlife Service. During territorial status the federally conducted operation was appreciably less than the program now possible as a state.

The new state program under the Dingell-Johnson Act was activated July 1, 1959. Eleven separate studies made up the "Sport Fish Investigations of Alaska" project. Eight of the eleven were designed to reconnoiter the state's recreational fisheries resource and to provide background for the development of specific investigations as the need became apparent. Three problems of immediate concern appeared sufficiently defined and full scale investigations were mounted to explore their management implications. These included studies of Arctic grayling, Southeastern king salmon and recreational fishing access.

All of the investigations pose problems unique to Alaska in some respects and all provide ample scope for original work in the fisheries field. The recreational fishing access study is an example. Most of Alaska's fishing waters are still in the public domain and unfettered by private holdings--a unique situation. Successful prosecution of this activity now and in the immediate future can forestall many of the serious recreational use problems currently facing other states.

The various studies were staffed as personnel were recruited. Field work began as the supplies and equipment were procured. Initial progress was slowed somewhat by this and the necessary period of personnel indoctrination. A "cutoff" date for each job from one to three months before July, 1960 shortened the period covered. As a result, these first reports encompass an effective working period of considerably less than one year.

The enclosed progress reports are fragmentary in many respects and the interpretations contained therein are subject to re-evaluation as the work progresses.

ANNUAL REPORT OF PROGRESS
INVESTIGATIONS PROJECT
COMPLETION OF 1959-1960 SEGMENT

State: ALASKA

Project No.: F-5-R-1 Name: Sport Fish Investigations
of Alaska

Job No.: 4 Title: Investigation of the Sport
Harvest of Southeastern
Alaska King Salmon

Period Covered: July 1, 1959 to May 13, 1960

Abstract:

An investigation was started on July 1, 1959, to determine the magnitude of the sport fish harvest of king salmon in Southeastern Alaska and to initiate a racial study with the aim of finding possible methods of separating different king salmon stocks as to place of origin. As the commencement of the program was too late to cover much of the 1959 king salmon fishing season (spring and early summer) very little data was obtained. The procedures, equipment, and experimental programs are given for the 1960 fishing season now in progress for both aspects of the investigation. A summary of the limited data collected in 1959 is presented.

Objectives:

The program was formulated (July 1, 1959) with two major objectives to be investigated: (1) to ascertain the magnitude of the sport harvest of king salmon in Southeastern Alaska and (2) to initiate a racial study for the purpose of separating stocks of king salmon as to place of origin.

Technique Used:

Part I - Magnitude of Sport Harvest

A sampling program has been formulated to obtain the numbers of fish, fishing effort, areas fished, weights, lengths, sex, and other pertinent data for Southeastern Alaska. The sampling during the first fishing season is being concentrated in the Juneau and Ketchikan areas, the two major sport fishing areas in Southeastern Alaska. Men have been stationed in the above two towns to check the boat landings, interview fishermen, and to sample the fishery on the different fishing grounds. Arrangements have also been made to obtain information from the smaller outlying towns through local salmon derbies and departmental district biologists.

Part II - Racial Study

A program has been initiated this spring and summer to sample the downstream smolt migration of a typical Southeastern Alaska king river. Information on the timing of the run, length, weight, and specimens for meristic counts on possible racial differences is being collected from the Taku River near Juneau. The data is being obtained by use of a floating, reversed inclined plane type trap and from beach seining operations in the river and estuary. Scale samples, lengths, weights, and other meristic information are also being obtained from the sport fishery and cold storages in the different fishing areas in Southeastern Alaska.

A study of the different spawning populations of king salmon in Southeastern Alaska, with the aim of determining the magnitude of spawning, where spawning runs occur, and the collection of meristic data from the various runs, has been formulated for the spawning run later this season.

All the planning and procedures have been completed and the necessary equipment and personnel have been obtained for both aspects of the investigation. Field work is now underway on the 1960 sport fish and downstream smolt run season.

Findings:

The king sport fishery for the 1959 season was nearly finished at the time of initiation of field activities for this investigation, and as a consequence very little data was collected. However, the Juneau salmon derby was sampled from July 24 through July 26.

- A. Five hundred ninety-nine king salmon were submitted to the two official stations at Tee Harbor and Auke Bay during the three day derby. Fishing time was from 8 a.m. to 5 p.m. Of this number, a total of four hundred sixty-seven fish were sampled. An unknown number of smaller fish were not turned in, but kept for food purposes. (see Table 1)
- B. The fish averaged 75.72 cms. long and 15 lbs. 9 ozs. in weight. There was little difference between the two stations. The sex ratio, based on fish at Tee Harbor only, was 1.5 females for every male caught. (see Table 2)
- C. The number of boats was estimated at 1,438 for the three days fishing with 3,511 fishermen participating. An average of 2.7 fishermen were recorded for the smaller inboards, while 4.4 fishermen on the average fished from the larger inboards out at Auke Bay. A total of 0.42 king salmon were taken per fisherman for the three days fishing. (see Table 3)

Recommendations:

The program and methodology described above are now being conducted on the king salmon sport fishery. It is recommended the investigation be continued along the lines indicated.

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30 June 1960

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Table I. Total number of King Salmon landed and total number sampled during Juneau Salmon Derby

	Tee Harbor	Auke Bay	Totals
Total Kings landed	261	338	599
Length sample	255	209	464
Weight sample	205	169	374
Sex sample	246	-	246
Total Kings sampled	256	211	467
Total Coho, few other species salmon	-	-	862*
Total fish			1461**

* derived by subtraction of total kings from total fish.

** based on number of fish submitted for door prize drawing plus number of fish turned in for fish prizes.

Table II. King Salmon Length, Weight, and Sex Ratio

	TEE HARBOR			AUKE BAY			TOTALS		
Date	Ave. Length (cms.)	Ave. Weight (lbs-ozs)	No. Fe- male ea. male	Ave. Lgth.	Ave. Wt.	Sex Ratio	Ave. Lgth.	Ave. Wt.	No. Fe- male ea. male
July 24	77.3	16-1	1.5	75.0	14-11	-	76.2	15-6	1.5
July 25	77.1	16-0	1.2	75.1	15-9	-	76.1	15-12	1.2
July 26	74.4	16-15	1.7	75.4	16-2	-	74.9	16-8	1.7
Total	76.1	16-4	1.5	75.2	15-9	-	75.7	15-9	1.5

Table III. Number of Boats and Fishermen in Juneau Salmon Derby*

		FRIDAY July 24		SATURDAY July 25		SUNDAY July 26		TOTALS		
		Tee Harbor	Auke Bay	Tee Harbor	Auke Bay	Tee Harbor	Auke Bay	Tee Harbor	Auke Bay	Total Boats
Small Boats	Open Skiff	67	225	90	231	95	241	252	697	1308
	Small Cabin	105		128		126		359		
Large Boats	Medium Cabin	8	29	10	30	10	32	28	91	130
	Large Boat	4		3		4		11		
Totals		184	254	231	261	235	273	650	788	1438
No. of Fishermen		335	574	508	740	564	850	1347	2164	3511
Ave. Person Per Boat	Small Boat		2.5		2.6		3.0		2.7	
	Large Boat		-		4.4		4.4		4.4	

* Numbers were derived by direct count and in some cases were estimated. Numbers are only approximations to actual count.